FUTURE FISHERIES IMPROVEMENT PROGRAM GRANT APPLICATION

Please fill in the highlighted areas
all sections (IA, IB, IC, etc.) must be addressed or the application will be considered invalid

I. APPLICANT INFORMATION

A. Applicant Name: Big Blackfoot Chapter of Trout Unlimited

B. Mailing Address: PO Box 1

C. City: Ovando State: MT Zip: 59854

Telephone: 406-240-4824 E-mail: ryen@montanatu.org

D. Contact Person: Ryen Neudecker

Address if different from Applicant: See above

City: State: Zip:

Telephone: E-mail:

E. Landowner and/or Lessee Name (if other than Applicant): United States Forest Service-George Liknes, Fish Biologist

Mailing Address: 1569 US HWY 200

City: Lincoln State: MT Zip: 59639

Telephone: 406.362.7003 E-mail: georgealiknes@fs.fed.us

II. PROJECT INFORMATION*

A. Project Name: North Fork Keep Cool Fish Passage

River, stream, or lake: North Fork Keep Cool

Location: Township: 15N Range: 8W Section: 28 SE1/4
Latitude: 112 42’ 39” Longitude: 46 58’ 17” N *within project (decimal degrees)*

County: Lewis & Clark

B. Purpose of Project:

The purpose of this project is to replace an undersized culvert near stream mile 10.1 on North Fork Keep Cool Creek that prevents fish passage for native trout at nearly all flows and creates impairments to the channel.

C. Brief Project Description:

NF Keep Cool Creek fish passage

North Fork Keep Cool Creek is a third-order tributary to Keep Cool Creek and supports fluvial, genetically pure westslope cutthroat trout. Keep Cool is a tributary to the upper Blackfoot River and enters the river just west of Lincoln, MT. This project has been identified as a priority under the ***Collaborative Forest Landscape Restoration Program***—a program identified in 2009 by the Secretary of Agriculture to encourage the collaborative, science-based ecosystem restoration of priority forest landscapes. This project will address the existing stream crossing near stream-mile 10.1 on the United States Forest Service lands that is undersized, is a fish passage barrier at most flows and creates impairments to the channel. The existing 87" pipe arch culvert is proposed to be replaced with a bottomless steel plate pipe arch structure that will allow uninhibited aquatic organism passage and replicate the stream bed up and down stream of the crossing.

The existing undersized culvert on North Fork Keep Cool Creek causing channel impairment, lack of connectivity, and depression of migratory life histories is proposed to be replaced with a bottomless arch structure following Stream Simulation methods and principles that will result in a stable stream crossing that will correct the current road drainage problems, eliminate delivery of excessive sediment, provide for fish passage (1.3 mile additional connectivity upstream of the crossing) and restore the natural channel morphology to the site. A basic topographic and hydraulic field survey was conducted to locate key physical features within the area of the existing culvert. A long profile, stream cross-sections, bankfull widths, and general geomorphologic parameters were collected. The new structure dimensions were sized based on stream characteristics collected from the reference reach and hydraulic analysis. The hydraulic capacity of the structure was analyzed to ensure that it satisfies a 100-year flood event. Reference reach data collected indicated that bankfull width is close to 12 ft., 5 inches. To meet Stream Simulation guidelines, our new structure width will be 17' to accommodate bankfull and an appropriate floodplain. Grade control step pools will also be incorporated as the channel grade is close to 5.2%. Please refer to attached map, photos and design.

D. Length of stream or size of lake that will be treated: The existing undersized culvert near stream mile 10.1 will be replaced to restore connectivity to 1.3 miles of NF Keep Cool Creek with waters downstream.

E. Project Budget:

Grant Request (Dollars): $ 22,400.00

Contribution by Applicant (Dollars): $ 4,000 In-kind $ 6,735

(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): $ 139,512.50 In-kind $

(attach verification - See page 2 budget template)

Total Project Cost: $ 172,647.50

F. Attach itemized (line item) budget – see template

G. Attach **specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support and fish biologist support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete a *supplemental questionnaire*** (fwp.mt.gov/habitat/futurefisheries/supplement2.doc).

H. **Attach land management & maintenance plans that will ensure protection of the reclaimed area**.

III. PROJECT BENEFITS*

A. What species of fish will benefit from this project?:

Pure populations of westslope cutthroat trout.

B. How will the project protect or enhance wild fish habitat?:

Upgrading this undersized stream crossing will restore fish passage and reconnect ~ 1.3 miles of instream habitat upstream of the crossing. The immediate reach of North Fork Keep Cool Creek where the culvert is located may go dry during late summer months in some years, but the stream reaches up and downstream remain perennial. Allowing trout to move freely through this reach before flows go subsurface is important to maintain population connectivity and increase the long term viability and persistence of the population.

C. Will the project improve fish populations and/or fishing? To what extent?:

The project will improve recruitment of westslope cutthroat trout within the drainage and downstream.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

Yes, by increasing wild trout habitat in the Blackfoot River drainage. The public also has legal streamside access via adjacent USFS lands.

E. The project agreement includes a 20-year maintenance commitment. Please discuss your ability to meet this commitment.

The USFS has committed to maintaining the bottomless arch steel plate pipe arch for its life expectancy. The proposed structure will be essentially maintenance-free structures and the life expectancy is estimated to be between 75 and 100 years.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

The cause of degradation is the undersized culvert installed at an elevation too high to allow fish passage. Upgrading the stream crossing will correct the impairments.

G. What public benefits will be realized from this project?:

This project involves the continuation of the Blackfoot River Restoration program and the restoration of a westslope cutthroat stream. Public benefits include: 1) recruitment of recreational fisheries to the Blackfoot River, 2) improved water quality (sediment reductions) on-site and downstream, and 3) contribute to the recovery of a species of special concern.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

No impact to any water rights or property rights of adjacent landowners will occur.

I. Will the project result in the development of commercial recreational use on the site?: (explain):

No commercial recreational use is known to occur on this project site.

J. Is this project associated with the reclamation of past mining activity?

No

Each approved project applicant must enter into a written agreement with Montana Fish, Wildlife & Parks specifying terms and duration of the project. The applicant must obtain all applicable permits prior to project construction. A competitive bid process must be followed when using State funds.

IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature: Ryer Neudecker Date: 11-28-2017

Sponsor (if applicable):

***Highlighted boxes will automatically expand.**

Mail To: Montana Fish, Wildlife & Parks
Fisheries Division
PO Box 200701
Helena, MT 59620-0701

E-mail To: Michelle McGree
mmcgree@mt.gov
(electronic submissions MUST be signed)

Incomplete or late applications will be rejected and returned to applicant.
Applications may be rejected if this form is modified.

*****Applications must be signed and *received* by the Future Fisheries Program Officer in Helena *before* December 1 and June 1 of each year to be considered for the subsequent funding period**.***

NF Keep Cool Creek fish passage

Photos 1-2: Existing stream crossing on NF Keep Cool Creek near stream-mile 10.1.

NF Keep Cool Creek fish passage

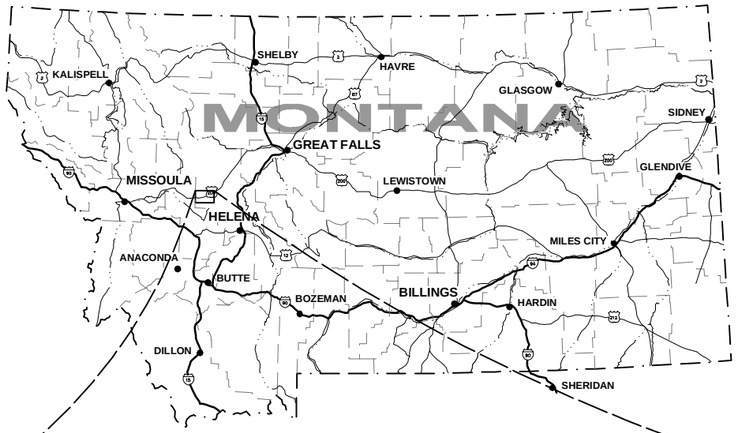
WORK ITEMS (ITEMIZE BY CATEGORY)	NUMBER OF UNITS	UNIT DESCRIPTION*	COST/UNIT	TOTAL COST	CONTRIBUTIONS			
					FISHERIES REQUEST	IN-KIND SERVICES	IN-KIND CASH	TOTAL
Personnel								
Survey	24	hours	$100.00	$ 2,400.00			$ 2,400.00	$ 2,400.00
Design	75	hours	$100.00	$ 7,500.00			$ 7,500.00	$ 7,500.00
Engineering	60	hours	$90.00	$ 5,400.00			$ 5,400.00	$ 5,400.00
Permitting	20	hours	$45.00	$ 900.00		$900		$ 900.00
Oversight	125	hours	$86.50	$ 10,812.50		4,000.00	6,812.50	$ 10,812.50
Labor	80	hours	$45.00	$ 3,600.00			3,600.00	$ 3,600.00
				$ 30,612.50				$ 30,612.50
Travel								
Mileage	2000	miles	$0.58	$ 1,160.00		1,160.00		$ 1,160.00
Per diem	15	days	$45.00	$ 675.00		675.00		$ 675.00
				$ 1,835.00				$ 1,835.00
Construction Materials****								
Placed riprap, class 4	138	cubic yards	$100.00	$ 13,800.00			$13,800	$ 13,800.00
Seeding, revegetation	LS	each	$5,000.00	$ 5,000.00	1,000.00		$4,000	$ 5,000.00
Dewatering, Soil erosion, pollution control	LS	each	$12,000.00	$ 12,000.00			$12,000	$ 12,000.00
Grade Control Structures	5	each	$4,000.00	$ 20,000.00	2,000.00		18,000.00	$ 20,000.00
Precast concrete member, footings	LS	each	$30,000.00	$ 30,000.00	3,400.00		26,600.00	$ 30,000.00
Structural Plate Arch	LS	each	$28,000.00	$ 28,000.00	10,000.00		18,000.00	$ 28,000.00
				$ 108,800.00				$ 108,800.00
Equipment								
Hydraulic Excavator	150	hours	$140.00	$ 21,000.00	4,000.00		17,000.00	$ 21,000.00
Dump Truck	60	hours	$90.00	$ 5,400.00	2,000.00		3,400.00	$ 5,400.00
				$ 26,400.00				$ 26,400.00
Mobilization								
Mob/demob	1	lump sum	$5,000.00	$ 5,000.00	-		5,000.00	$ 5,000.00
			TOTALS	$ 172,647.50	$ 22,400.00	$ 6,735.00	$ 143,512.50	$ 172,647.50

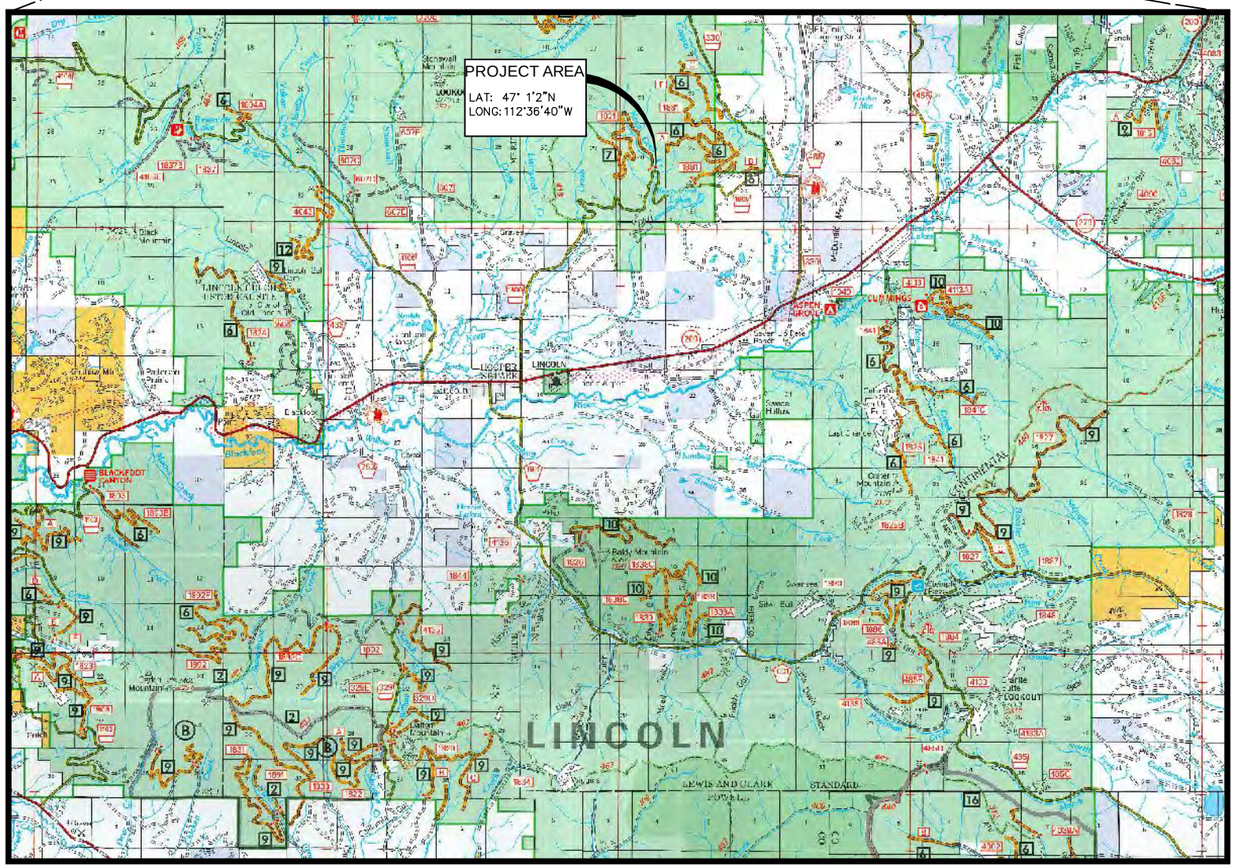
MATCHING CONTRIBUTIONS

CONTRIBUTOR	IN-KIND SERVICE	IN-KIND CASH	TOTAL	Secured? (Y/N)
US Forest Service	$ -	$ 139,512.50	$ 139,512.50	YES

NF Keep Cool Creek fish passage

Big Blackfoot Chapter of Trout Unlimited	$ 6,735.00	$ 4,000.00	$ 10,735.00	YES





NOT TO SCALE

KEEP COOL CREEK AQUATIC ORGANISM PASSAGE
CULVERT REPLACEMENT
LINCOLN, MONTANA

PREPARED FOR:

BIG BLACKFOOT CHAPTER
OF TROUT UNLIMITED
P.O. BOX 1
OVANDO, MONTANA

Big Blackfoot Chapter of Montana Trout Unlimited

PREPARED BY:

DOWL
WWW.DOWL.COM
1300 Cedar Street
Helena, Montana 59601
406-442-0370

PRELIMINARY
NOT FOR CONSTRUCTION

RECOMMENDED:

DISTRICT RANGER
LINCOLN RANGER DISTRICT

Date

REVIEWED:

FOREST ENGINEER
HELENA NATIONAL FOREST

Date

APPROVED:

FOREST SUPERVISOR
HELENA NATIONAL FOREST

Date

APPROVED:

Jeffrey K. Olsson, P.E. 18996
PROJECT MANAGER
DOWL

Date

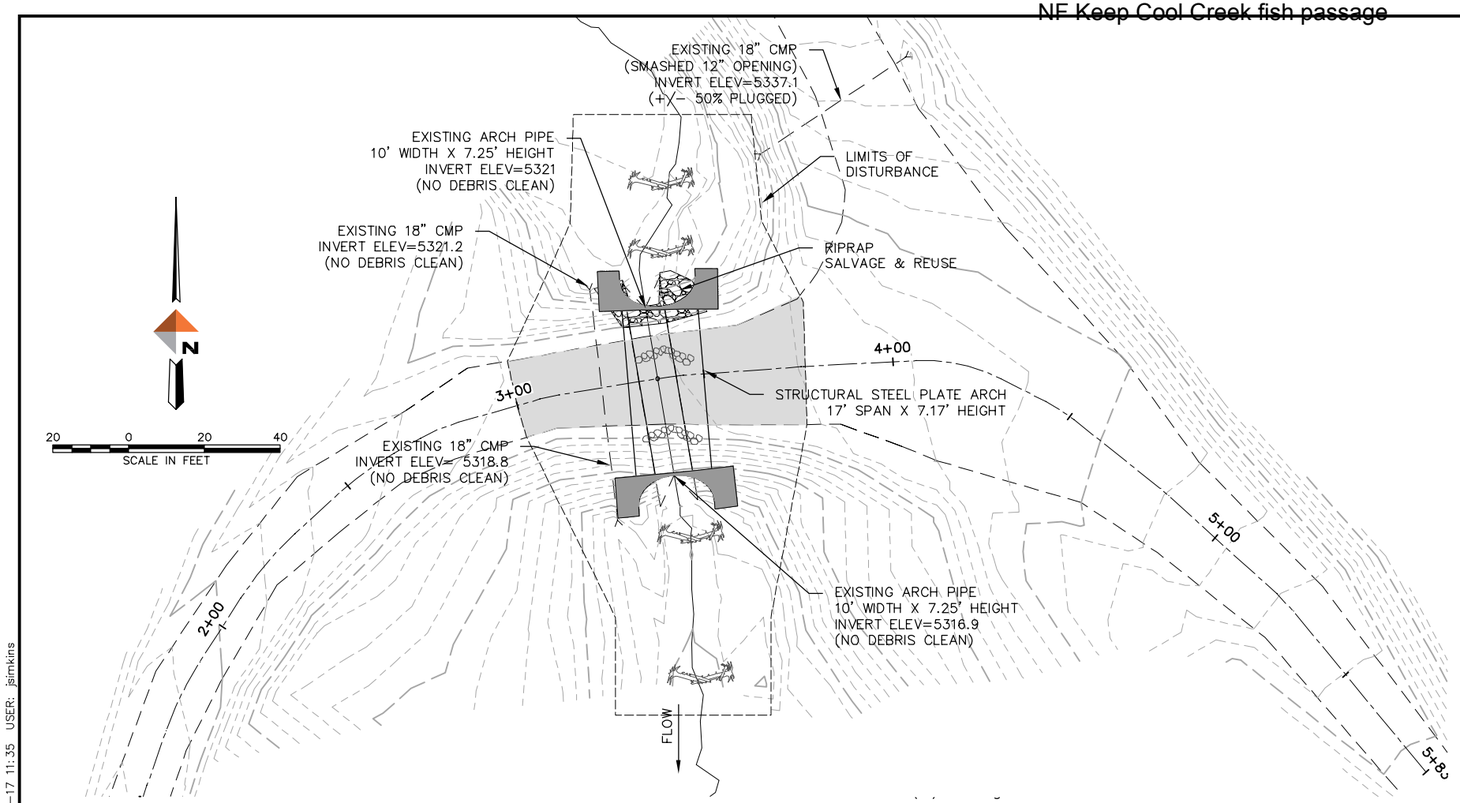
SHEET INDEX

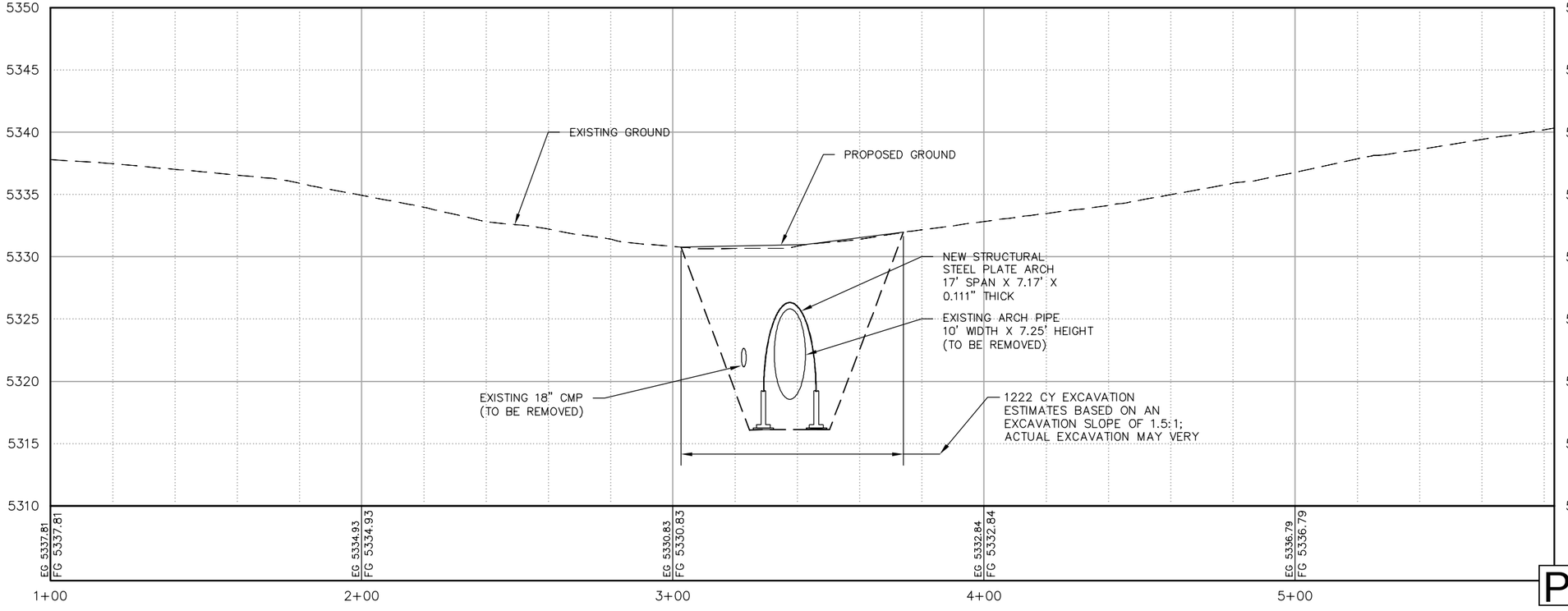
* NOT INCLUDED IN THIS PRELIMINARY DESIGN SUBMITTAL

PROJECT 4626.11478.01
DATE NOVEMBER 2017

SHEET
G1

NF Keep Cool Creek fish passage





PRELIMINARY

REVISIONS

REV	DATE	DESCRIPTION	BY

DOWL
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KEEP COOL CREEK CULVERT REPLACEMENT
FRS 1800

ROAD PLAN AND PROFILE

PROJECT 4637.12022.01
DATE NOVEMBER 2017

SHEET
PP1

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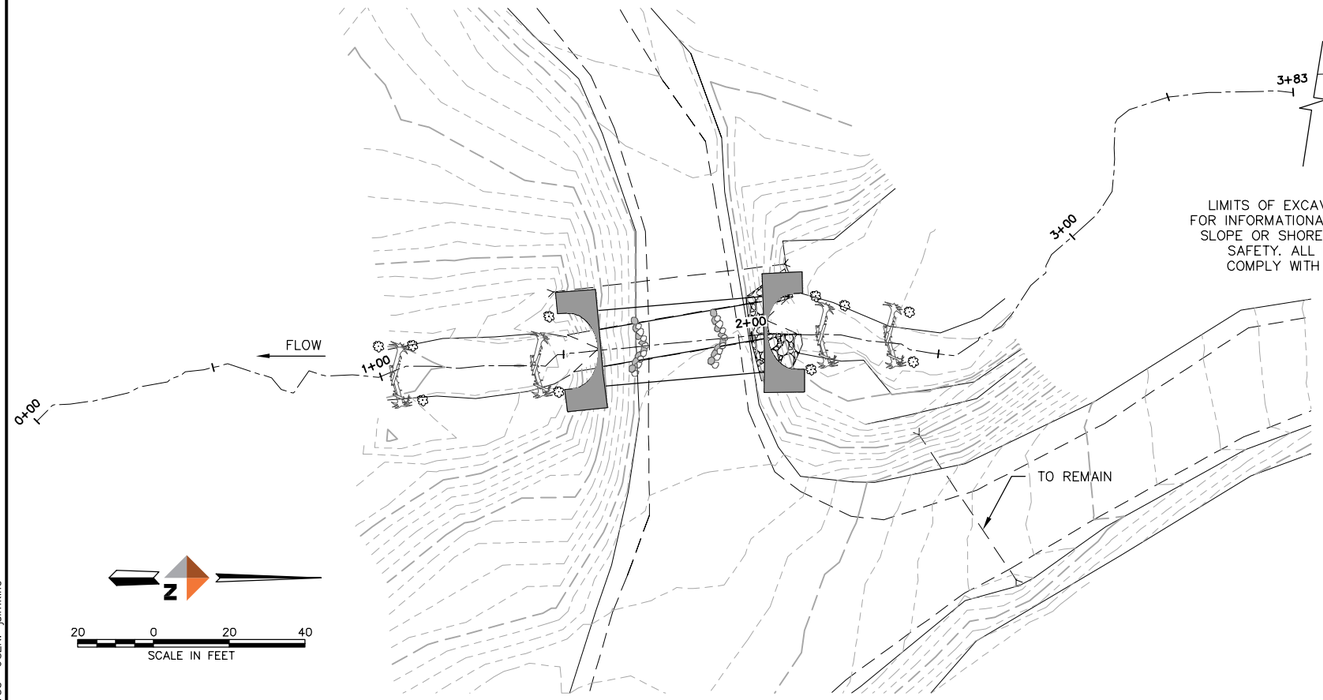
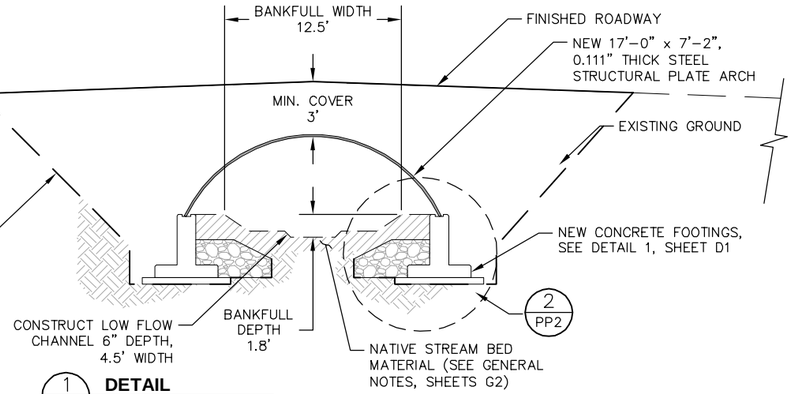
NF Keep Cool Creek fish passage





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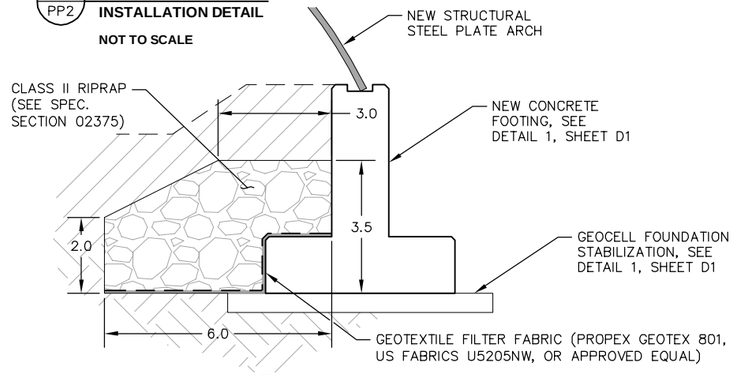
INSTALLATION DETAIL
NOT TO SCALE



2 PP2 **DETAIL**
STEM WALL PROTECTION RIPRAP
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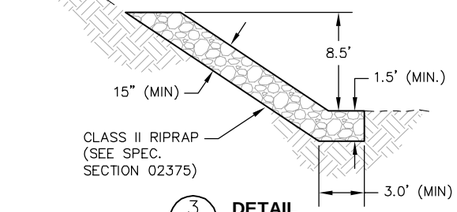
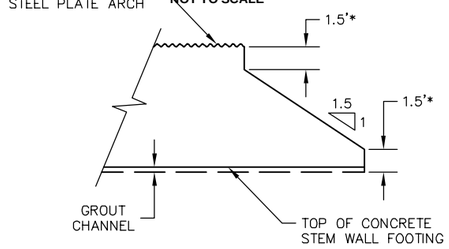
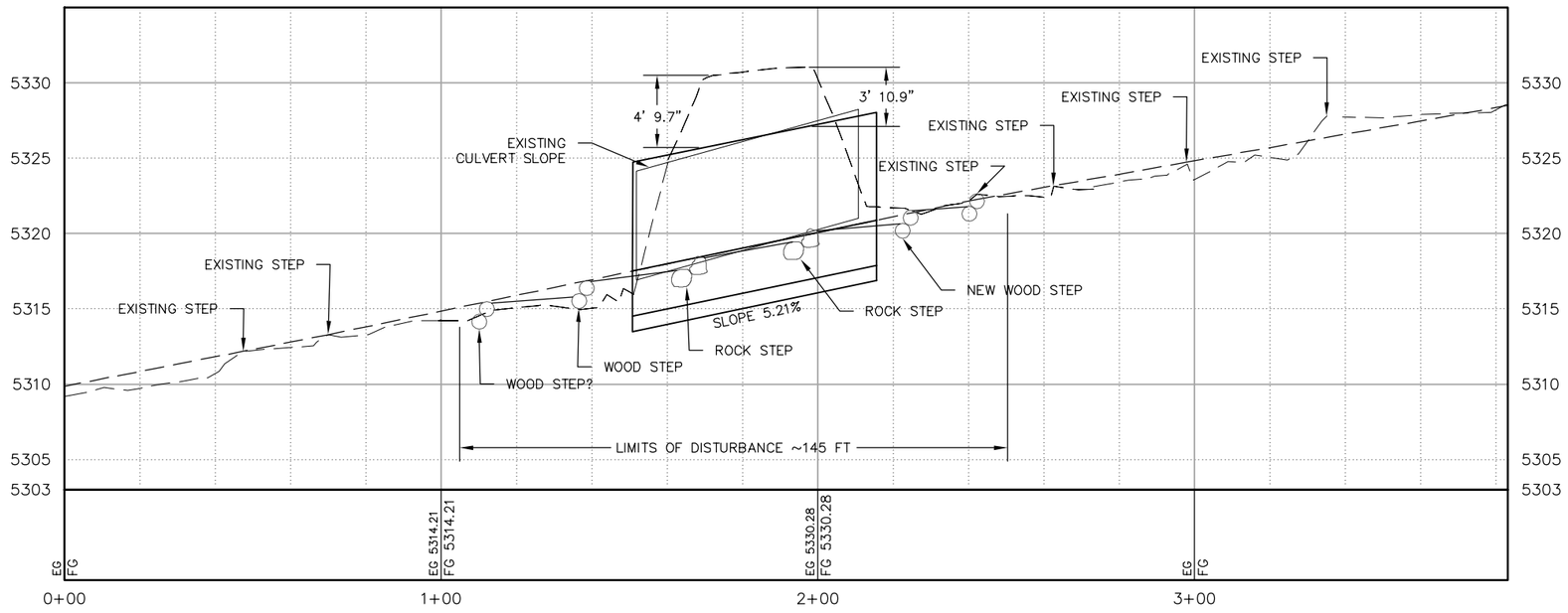


3 PP2 **DETAIL**
RIPRAP END PROTECTION
NOT TO SCALE



* DIMENSIONS OTHER THAN SHOWN ARE ACCEPTABLE IF STANDARD MANUFACTURER'S END TREATMENTS ARE USED. SUBMIT FOR APPROVAL

4 PP2 **DETAIL**
STEP-BEVELED END TREATMENT
NOT TO SCALE



PRELIMINARY

REV	DATE	DESCRIPTION	BY
		REVISIONS	

DOWL
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KEEP COOL CREEK CULVERT REPLACEMENT
FRS 1800

STREAM PLAN AND PROFILE

PROJECT 4637.12022.01
DATE NOVEMBER 2017

SHEET
PP2

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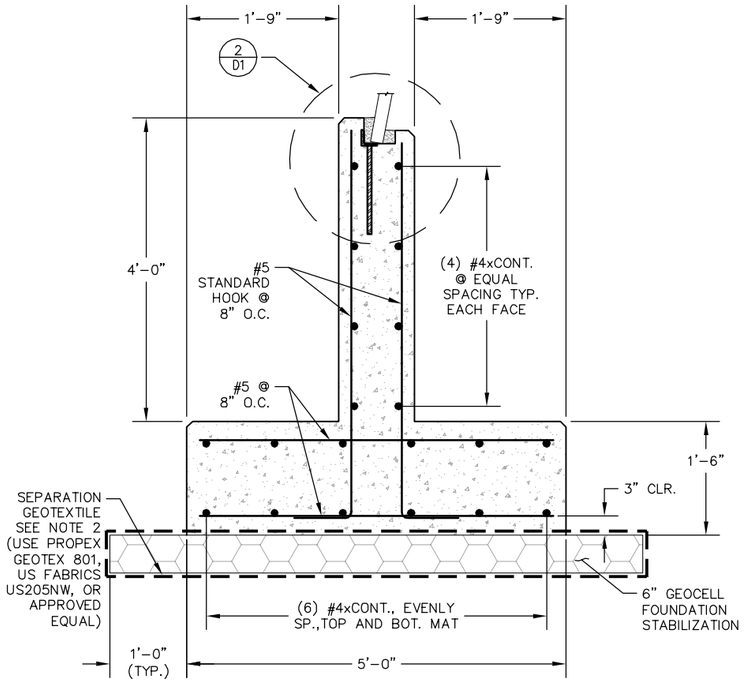
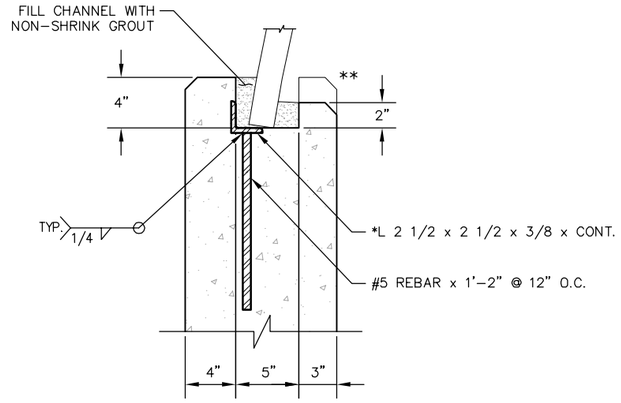


1 D1 **DETAIL**
FOOTING DETAIL
NOT TO SCALE

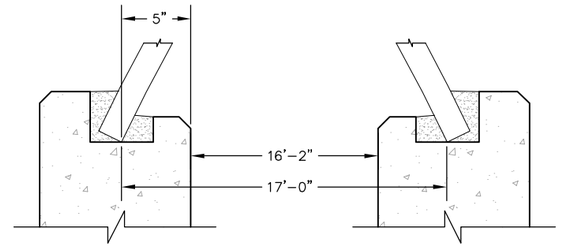
NOTES:
1. 1 1/2" CLEAR COVER UNLESS OTHERWISE NOTED.
2. PLACE GEOCELL ON UNDISTURBED SOIL. FILL GEOCELL WITH COARSE GRANULAR BACKFILL (SEE SPECIFICATION SECTION 02222).
3. PLACE GEOTEXTILE UNDER GEOCELL AND WRAP OVER TOP AFTER GEOCELL IS BACKFILLED. OVERLAP JOINTS A MINIMUM OF 12 INCHES.



2 D1 **DETAIL**
GROUT CHANNEL
0.5 0 0.5 1
SCALE IN FEET

* L 2 ½ x 2 ½ x ⅜ IS THE MINIMUM SIZE ANGLE ALLOWED. A LARGER ANGLE, IN EITHER LEG DIMENSION, THICKNESS, OR BOTH MAY BE USED AT CONTRACTOR'S DISCRETION. UNEQUAL LEG ANGLES ARE ACCEPTABLE. ANGLE AND DOWEL ASSEMBLY SHALL BE CAST-IN-PLACE.

** HEIGHT OF INSIDE FIN MAY VARY FROM 2"-4". IF A HEIGHT > 2" IS USED, IT MUST BE VERIFIED THE PLATE ARCH WILL CLEAR THE FIN WHEN SET IN ITS PROPER LOCATION.



3 D1 **DETAIL**
STEM WALL INSTALLATION
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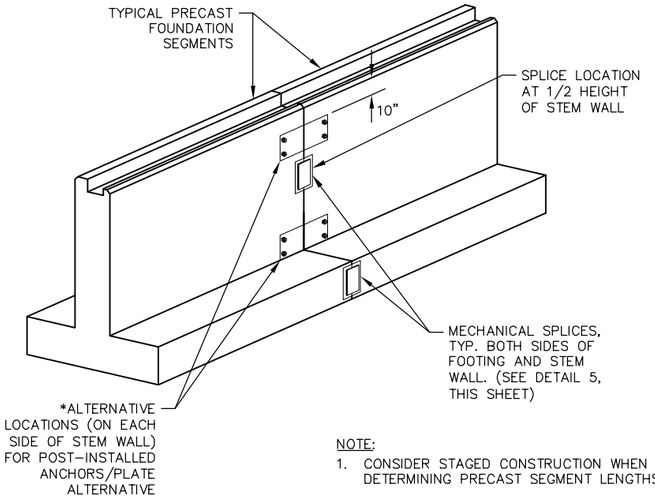
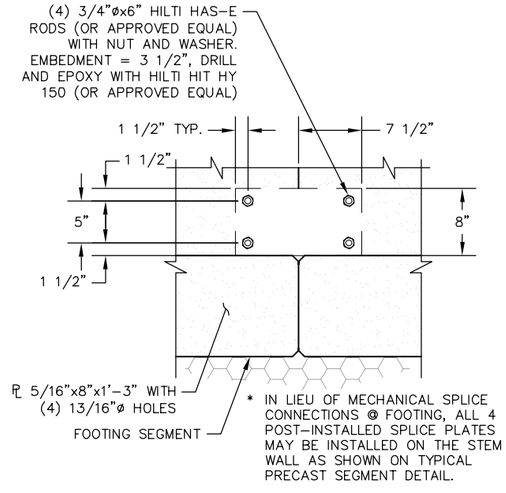
SCALE IN FEET



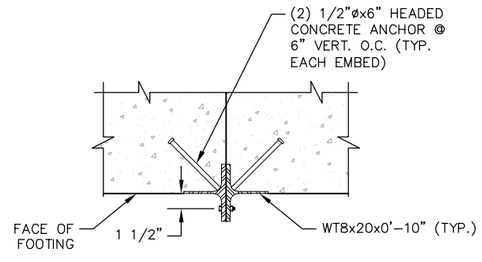
NOTE:
1. CONSIDER STAGED CONSTRUCTION WHEN DETERMINING PRECAST SEGMENT LENGTHS.

4 D2 **DETAIL**
TYPICAL PRECAST SEGMENT
NOT TO SCALE

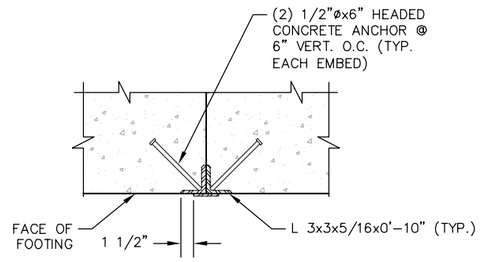


ELEVATION

POST-INSTALLED ANCHORS ALTERNATIVE



PLAN



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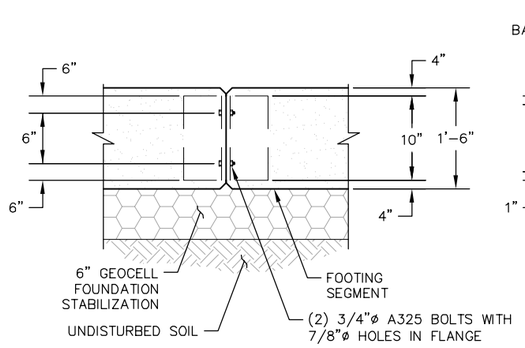
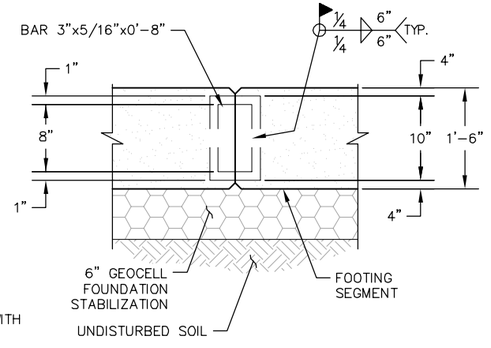


ELEVATION

BOLTED ALTERNATIVE

5 D2 **DETAIL**
MECHANICAL SPLICE
NOT TO SCALE



ELEVATION

WELDED ALTERNATIVE

PRELIMINARY

REVISIONS

REV	DATE	DESCRIPTION	BY

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KEEP COOL CREEK CULVERT REPLACEMENT
FRS 1800
FOUNDATION DETAILS

PROJECT 4637.12022.01
DATE NOVEMBER 2017

SHEET
D1

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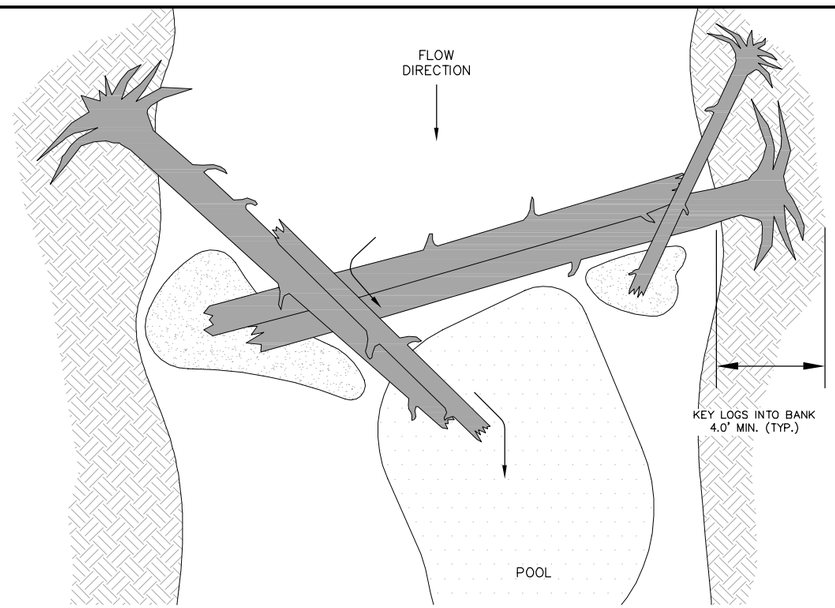
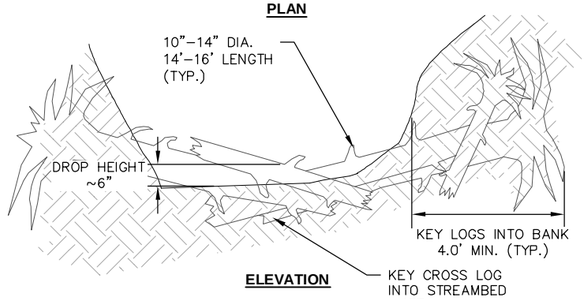
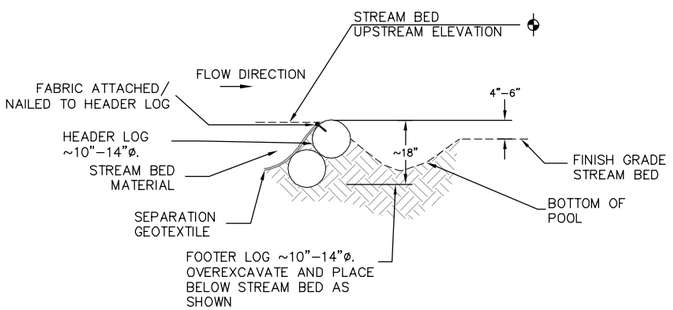


PLAN

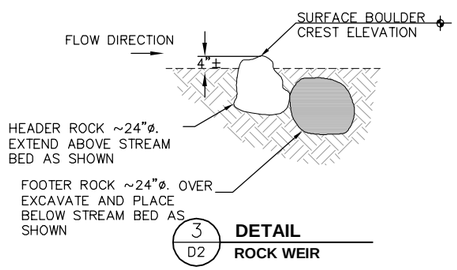


ELEVATION

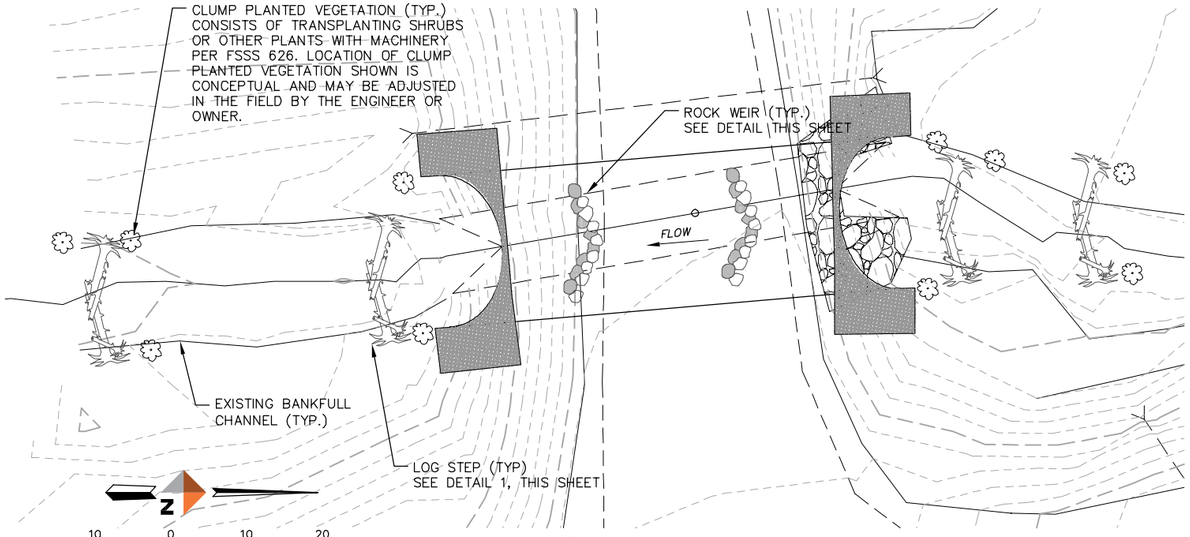
1/D2 **DETAIL**
TYPICAL STEP LOG POOL
NOT TO SCALE



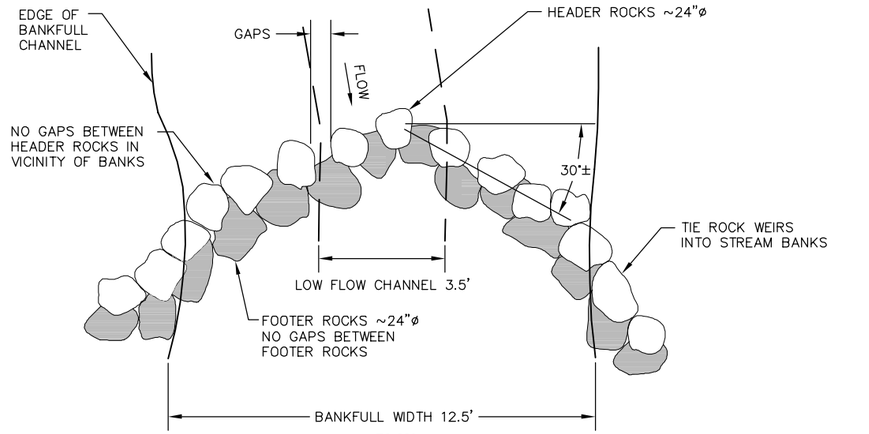
2/D2 **DETAIL**
TYPICAL LOG STEP POOL
NOT TO SCALE



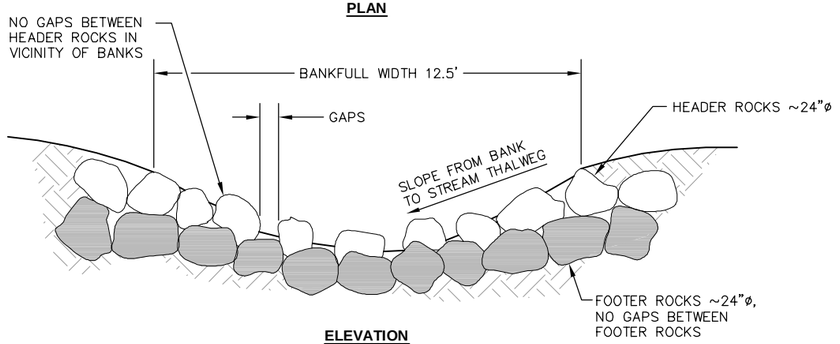
3/D2 **DETAIL**
ROCK WEIR
NOT TO SCALE



PLAN
ROCK WEIR LAYOUT



PLAN



ELEVATION

4/D2 **DETAIL**
ROCK WEIR
NOT TO SCALE

PRELIMINARY

REV	DATE	DESCRIPTION	BY
		REVISIONS	

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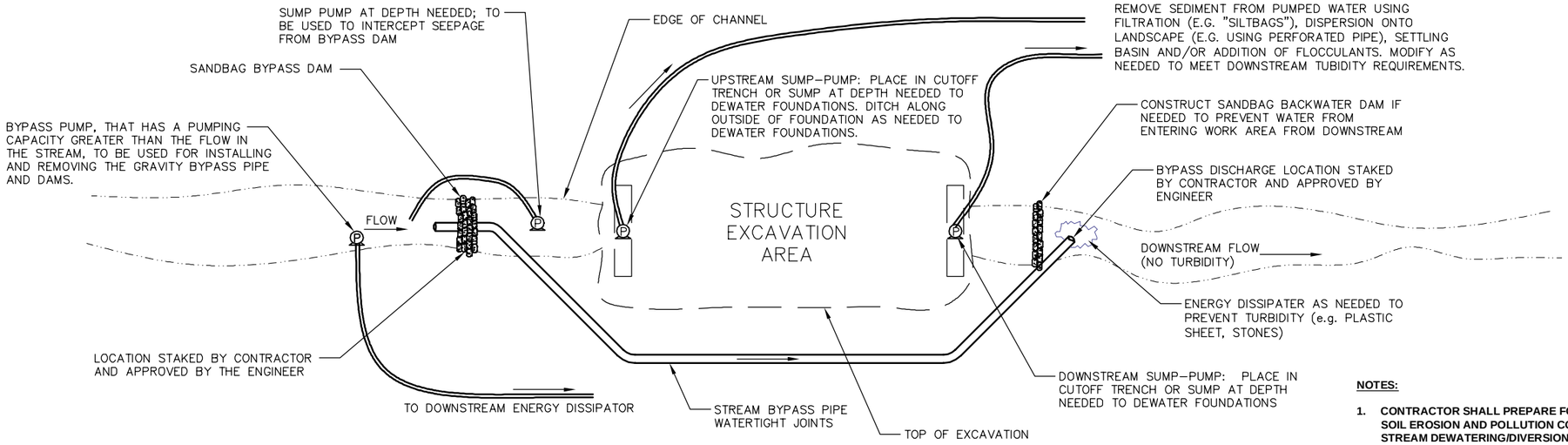
KEEP COOL CREEK CULVERT REPLACEMENT
FRS 1800
STREAM SIMULATION DETAILS

PROJECT 4637.12022.01
DATE NOVEMBER 2017

SHEET
D2

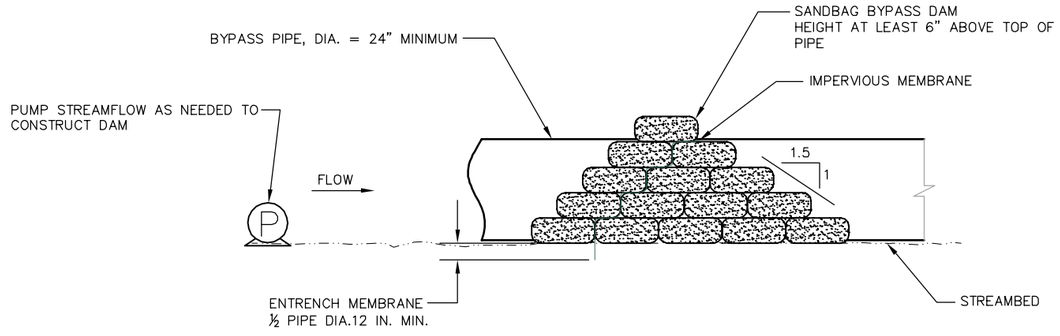
NF Keep Cool Creek fish passage



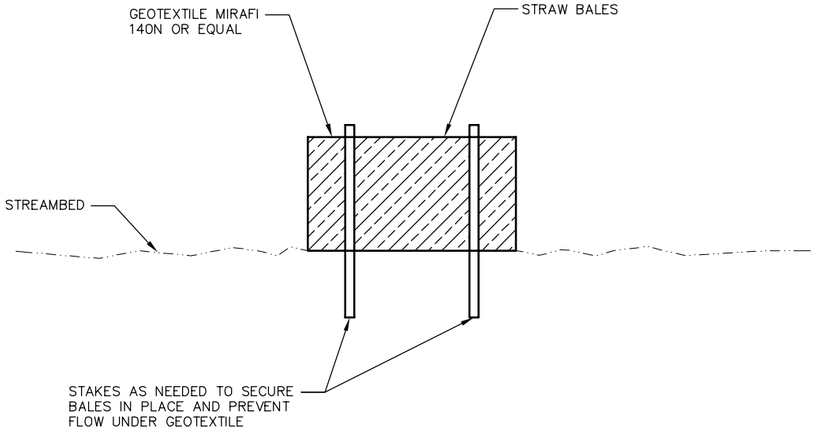
1 / D1 **DETAIL**
CONCEPTUAL DEWATERING & SEDIMENT CONTROL PLAN
NOT TO SCALE

NOTES:

1. **CONTRACTOR SHALL PREPARE FOR REVIEW AND APPROVAL A SOIL EROSION AND POLLUTION CONTROL PLAN TO INCLUDE STREAM DEWATERING/DIVERSION METHODS IN ACCORDANCE WITH SPECIFICATIONS AND THESE PLANS. DETAILS SHOWN ON THIS SHEET ARE CONCEPTUAL AND PROVIDE GUIDANCE OF METHODS AND MEANS THAT WOULD BE ACCEPTABLE.**
2. **WHEN CONSTRUCTING STREAM DIVERSION CONTRACTOR SHALL CAREFULLY REMOVE SOD AND TOPSOIL THAT LIES ALONG THE DIVERSION PATH AND STOCKPILE IN A LOCATION APPROVED BY THE ENGINEER. AFTER REMOVING THE DIVERSION STRUCTURE AND BACKFILLING THE TRENCH, CONTRACTOR SHALL CAREFULLY REPLACE THIS STOCKPILED MATERIAL. PRIORITY AREAS FOR REPLACEMENT OF VEGETATION ARE STREAMBANKS AND FLOODPLAINS.**
3. **CONSTRUCT TEMPORARY SEDIMENT EROSION CONTROLS AROUND TEMPORARY STOCKPILES AND STAGING AREAS. TEMPORARY CONTROLS MAY INCLUDE SILT FENCES, STRAW WADDLES OR BALES, EROSION CONTROL MATTING OR MULCH.**



2 / D2 **DETAIL**
SANDBAG BYPASS DAM
NOT TO SCALE



3 / D2 **DETAIL**
GEOTEXTILE-WRAPPED STRAW BALE DAM
NOT TO SCALE

PRELIMINARY

REVISIONS

REV	DATE	DESCRIPTION	BY

DOWL
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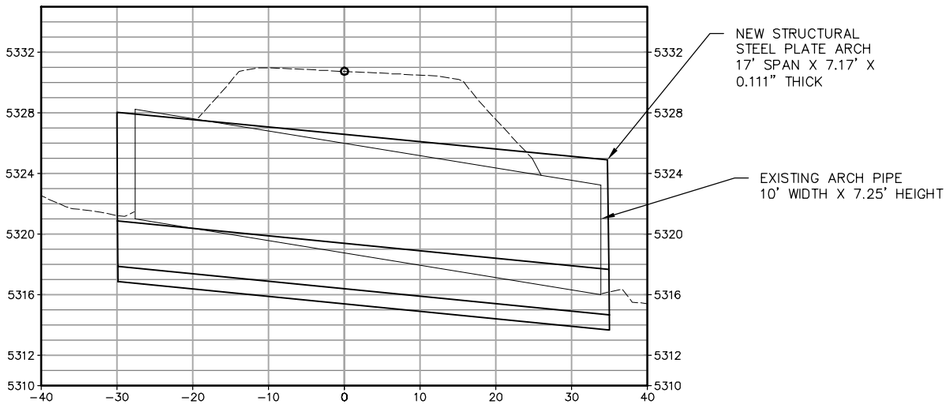
KEEP COOL CREEK CULVERT REPLACEMENT
FRS 1800
CONCEPTUAL STREAM DIVERSION DETAILS

PROJECT 4637.12022.01
DATE NOVEMBER 2017

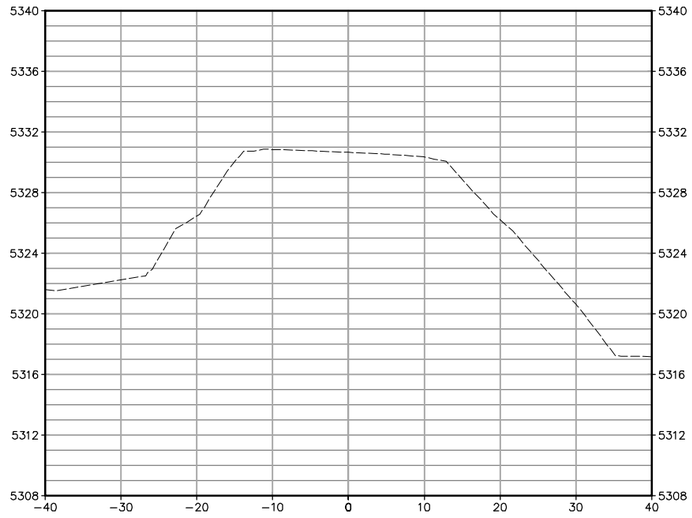
SHEET
D3

NF Keep Cool Creek fish passage

3+37.70



3+20.00



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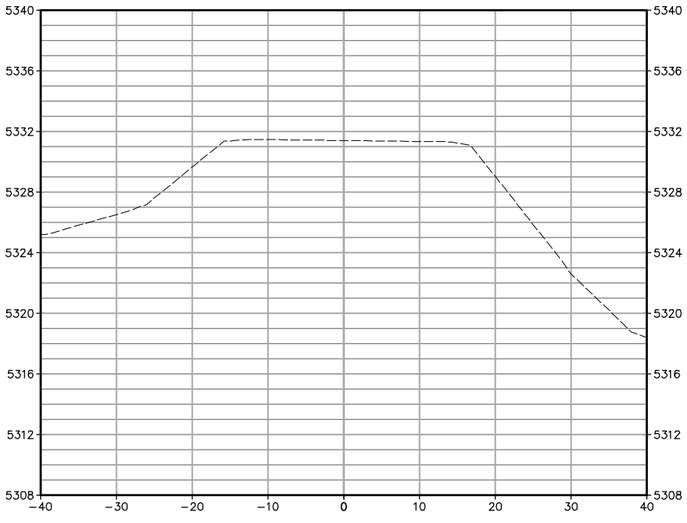
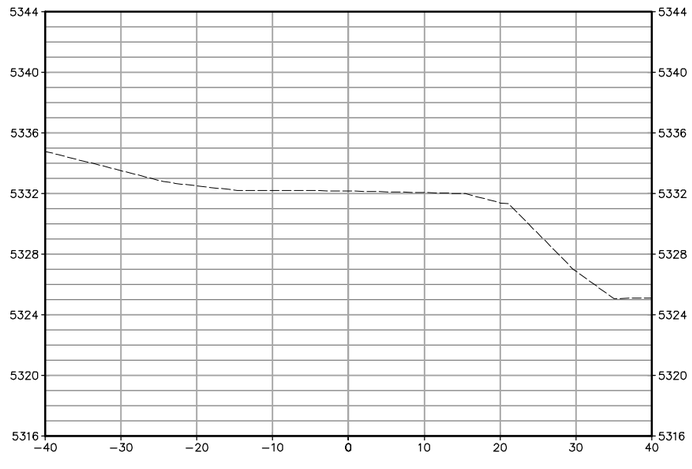


3+80.00



PRELIMINARY

REVISIONS

REV	DATE	DESCRIPTION	BY

DOWL
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KEEP COOL CREEK CULVERT REPLACEMENT
FRS 1800

ROAD CROSS SECTIONS

PROJECT 4637.12022.01
DATE NOVEMBER 2017

SHEET
XS1

C:\Civil 3D Projects\2014\37\12022-01\Civil\MC14-CH-IR-12022-01.dwg PLOT DATE 2017-11-17 11:40 SAVED DATE 2017-11-17 11:35 USER: jsimkins